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THE TREATMENT

OF

DROPSY OF THE GALL-BLADDER

BY OPERATION

(CHOLECYSTOTOMY).

WITH NOTES OF A SUCCESSFUL CASE.

BY

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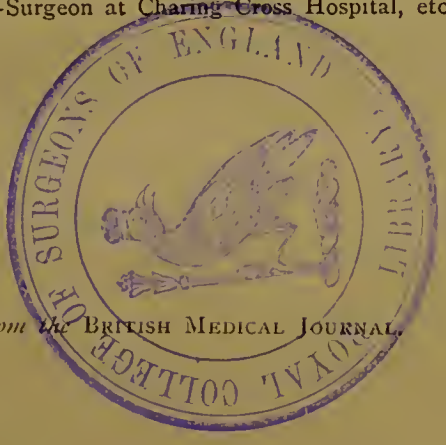

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THE following paper was read in the Section of Medicine at the Annual Meeting of the British Medical Association, at Bath, in August 1878, and was published in the Association *Journal* of December 21st, 1878.

English professional literature is singularly barren of surgical experiences in connection with diseases of the gall-bladder, but Mr. J. W. Hulke in a recent communication to the *British Medical Journal* (No. 940, Jan. 4th, 1879) refers those interested in the subject to a paper by Petit, published in 1743, in the *Mémoires de l'Académie Royal de Chirurgie*, tome 1, page 255, etc., entitled "Remarques sur les Tumeurs formées par la Bile retenue dans la Vesicule de Fiel, et qu'on a souvent prises pour des Abscès du Foye." In this paper the author states the differential diagnosis between abscess and distension of the gall-bladder by bile, traces this latter to obstruction by gall-stones in some instances, draws a parallel between these and retention of urine from a calculus blocking the urethra, and from this deduces appropriate surgical measures.

It is somewhat extraordinary that the suggestive and practical views of M. Petit should have been lost to the surgical world for upwards of a century and a quarter, but I trust that the success which attended the operative measures in the case detailed in the following pages will cause the attention of surgeons to be more closely directed to this hitherto much-neglected branch of surgical practice. At all events one may hope that English surgical text-books will no longer ignore the fact that certain conditions of the gall-bladder may justify operative procedures.

GEORGE BROWN.

12, Colebrooke Row, Islington;
February 25th, 1879.

ON THE TREATMENT OF DROPSY OF THE GALL-BLADDER BY OPERATION, WITH NOTES OF A SUCCESSFUL CASE.

At a meeting of the Medical Society of London, held on October 17th, 1859, Dr. Thudichum read a paper on the Pathology and Treatment of Gall-Stone, in which he suggested for the consideration of surgeons the advisability in appropriate cases of an operation for the removal of gall-stones through the abdominal walls.* From the report of the meeting (*Lancet*, October 22nd, 1859, page 421), the idea does not appear to have been received with much favour by the surgeons present, and Mr. Hilton, the President, said that he thought there were many difficulties in the way of such operation. He should like to hear from physicians the number, nature, and prospects of such cases in which the operation for extracting gall-stones could be thought of. The operation would be impossible in cases where the calculus was closely embraced by the bladder. But, from his knowledge, he thought it not impossible that cases fit for operative relief might present themselves; and, in cases of distended gall-bladder (which might occur with calculi), an operation such as the author had mentioned had actually been performed with success. I have looked through several medical journals, but have been unable to find any report of such a case. The only case at all like it of which I could find any notice is one which was brought before the Medical Society of London by the late Mr. Harvey, on January 29th, 1849, in which he tapped an abdominal tumour which had been diagnosed to be an ovarian cyst, but which ultimately proved to be connected with the liver, and drew off, it is stated, no less than sixteen quarts of fluid. The patient recovered from the operation; but some months after the cyst refilled, and the patient died from exhaustion. (*Vide Lancet*, vol. i, 1849, page 183.)

It is singular that, although nearly twenty years have passed since Dr. Thudichum proposed to cut down on the gall-bladder in suitable cases, the operation has scarcely occupied the attention of the profession (although its feasibility must have occurred to many surgeons) until the publication of Dr. J. Marion Sims's paper in the British Medical Journal of June 8th last. When Dr. Sims wrote that paper, he was under the impression that the operation was unique; but

† Dr. Thudichum's paper was published in the British Medical Journal for November 19th, 1859.

it will be seen, from the notes of the case which I have now the honour of bringing to the notice of this Association, that at the time when Dr. Sims operated on his patient, one on whom I had performed a somewhat similar operation was then convalescent.

The patient, Mrs. C., aged 45, wife of a carpenter residing in Islington, a tall, thin woman with very sallow complexion, consulted me, at the end of March 1877, on account of an abdominal tumour. I obtained from her the following history.

She was the mother of six children, all alive; the youngest seven years old. She had enjoyed very good health during the time of child-bearing; but, for about the last six years, had suffered from indigestion, pains of stomach, constipation, and occasional attacks of bilious colic. The catamenia were still regular. Her present illness dated from early in February 1877, when one day, after cleaning windows, she had felt pain in her right side below the liver. She took no particular notice of the pain at the time, concluding that she had strained the muscles in overreaching whilst cleaning the windows; but, on going to bed, she rubbed her side, with a view to relieve the pain, when she felt a hard lump. Next day, she called in a local practitioner, who told her she had a tumour of the side, which diagnosis was confirmed by his partner, who added that its nature and situation were such that nothing could be done for it by way of treatment except to endeavour to relieve pain. As she could obtain no information from these gentlemen beyond the assurance that she suffered from "tumour", she went to one of the metropolitan hospitals specially devoted to the treatment of diseases of women. The physician in attendance diagnosed "abdominal tumour", but would give no opinion as to its nature. He suggested, however, that he should attend her at home, where he would "puncture" the tumour to see if it contained fluid. She promised to consider the matter, but decided not to return to the hospital.

On examination, I found a tumour in the right hypochondriac region, extending from the lower border of the liver to about four inches below it. On percussion, its lateral boundaries were found to be limited by two lines—one drawn from the right nipple to the spine of the pubes, and the second just half an inch to the right of the umbilicus. It was pyriform in shape; the narrower part of the tumour was directed towards the liver, and it could be grasped through the abdominal walls. To the touch, it gave one the impression of being fully as wide at its widest part as a medium-sized lemon. It was free from the abdominal

wall, and could be moved from side to side. On asking the patient to take a deep inspiration, it responded to the movements of the diaphragm, from which I concluded that it was attached to the liver, and I felt no doubt that the tumour was an enlarged gall-bladder. (The rough sketch Fig. 1 will give some idea of its size and relations.) Whether the enlargement was due to fluid or gall-stones, I was unable to determine, as no fluctuation could be detected. As she was suffering from no constitutional disturbance, and felt equal to the management of her household affairs, I advised that nothing should be done for the present except to treat the constipation and biliousness. I kept her under observation for about nine months before any important alteration in her condition took place. During this time, she had two or three attacks of bilious colic (with vomiting of bilious fluid), which were relieved by poultices, turpentine stupes, and opiates. Meantime, the tumour slowly but very steadily increased in size. On the night of the 31st of December last, she was suddenly seized with rigors and extreme pain of the bowels. I saw her next morning, and ordered the usual remedies. She had had a green liquid motion. There was great tenderness over the tumour, which at this time measured about five inches in length and four inches and a half in width. Its right boundary

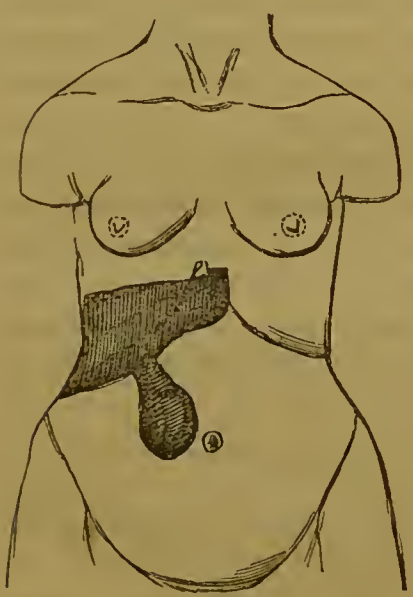

Fig. 1.

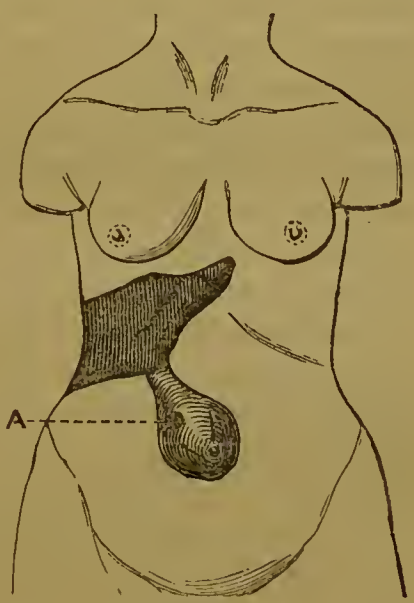

Fig. 2.

Fig. 1.—Mrs. C. Dropsy of Gall-Bladder. March 1877.

Fig. 2.—Mrs. C. Dropsy of Gall-Bladder. January 1st, 1878. A. represents the point of Aspiration Puncture.

was now an inch and a half outside the umbilicus (*vide* Fig. 2). The further progress of the case will be seen from the following notes taken daily.

January 2nd, 1878. Vomiting commenced early this morning. The liquid vomited was of a grass-green colour. There had been no sleep during the night; the pain was continuous. No action of bowels had taken place. Temperature 100.2; pulse 120. She was ordered ten grains of calomel in powder; and to suck ice, whilst hot linseed poultices were to be applied over the right hypochondriac region.

January 3rd. She had passed a restless night. Pain was continuous. There had been no action of the bowels. She had vomited five times since yesterday morning, bringing up at each time about half a pint of greenish liquid. No food had been retained by the stomach. Ten grains of calomel and one of opium were given, and an enema four hours afterwards, but without any action of the bowels resulting. The enema was repeated at bedtime; again without result. The temperature and pulse were unaltered.

January 4th. There had been a better night; pain was less; she had vomited several times last night and to-day. She had taken two saline aperient draughts at four hours' interval; but, as no action of the bowels had followed, three castor-oil enemata had been administered in quick succession. After the last enema, two copious evacuations had appeared; the stools were of a very dark colour. They were examined for gall-stones, but none were found. Pulse 104.

January 5th. The bowels had acted three times since yesterday; the stools were liquid and pale coloured. The pain was less violent. Vomiting had ceased, but retching continued. There was extreme tenderness on pressure over the right hypochondriac region, and slight fluctuation could be detected over an area about the size of a shilling, an inch above and an inch and a half to the right of the umbilicus. Temperature normal; pulse 104.

January 6th. There had been a better night. Pain and sickness had ceased.

January 7th. The general condition was unaltered. Fluctuation was more manifest.

January 8th. She had had a good night. The bowels had acted three times since yesterday. No gall-stones were observed. There had been no vomiting, but she felt sick. There was less pain and tenderness of the tumour. A curious symptom to-day was almost constant

and uncontrollable yawning. Temperature 100 deg.; pulse 104. Poultices had been constantly applied ever since the onset of acute pain.

January 9th. My friends Dr. Weston, Mr. F. H. Hume, and Mr. Gardner now saw the patient with me, and were unanimously agreed as to the presence of an abscess, probably in connection with the liver, and as to the desirability of aspirating. Accordingly, assisted by the two former gentlemen, I aspirated whilst the patient was under chloroform, and drew off six ounces of yellow non-fœtid pus, slightly tinged with blood. I was rather disappointed at the smallness of the quantity of pus drawn off; but, after passing the trocar in all directions around the point of puncture to the extent of quite three inches, we concluded that the abscess was exhausted. On examination after the operation, we found that the tumour was unaltered in size. On passing a probe into the abscess-cavity, one could feel some hard nodular masses, apparently about the size of filberts. At the time, I thought that these nodules were encysted gall-stones, but this idea was afterwards disproved. Three hours after the operation, she had slight rigors, the temperature rose to 102 deg., and the pulse to 130. Brandy, milk, ice, and morphia were given, and next day the pulse fell to 96 and the temperature to 99 deg. During the night, she vomited twice about a pint and a half of green liquid. She had a liquid stool in the morning, apparently consisting chiefly of mucus and bile. No blood nor pus was observed with the stool.

For the next five or six days, the patient remained in about the same condition. Pulse about 90 or 96; temperature normal. She continued exceedingly weak, being unable to take any solid food, and only small quantities of liquid nourishment, on account of the great tendency to vomiting. The bowels were kept gently open by means of aperients and enemata. The stools were invariably coloured with bile. On the 17th, the aspiration-puncture, which had apparently healed, reopened, and discharged a little blood-stained pus. On the 18th, the wound discharged about half an ounce of pus. On passing a probe into the wound about two inches, nothing could be felt but the hard nodules before mentioned.

On the 21st, she had another severe attack of pain in the right hypochondriac region, with nausea, sleeplessness, and inability to take food. As there seemed to be no hope of any amelioration in the condition of the patient unless something were done surgically for the tumour, I again consulted with Dr. Weston, Mr. Hume, and Mr. Gardner.

There could be no doubt as to the presence of a tumour of a large size; and, after a careful consideration of the case in all its bearings, we agreed that we were justified in cutting through the abdominal wall, and, if the tumour were found to be the gall-bladder, in evacuating its contents and establishing a fistulous opening. If adhesions had not been formed, I intended to stitch the walls of the gall-bladder to those of the abdomen. In proposing this operation, I felt that, assuming the diagnosis to be correct, we were only anticipating the best result of which nature was capable. Every day increased the danger of a fatal termination, from the tumour rupturing and discharging its contents into the abdominal cavity. Several cases of this kind have been recorded. The patient and her husband having given their consent, we decided to perform the operation without further delay.

The position of the tumour, and some idea as to its apparent size and relation to the liver, may be gathered from the rough diagram (Fig. 3) which I took on January 20th, two days before the operation.

The patient having been placed under chloroform by Dr. Weston, assisted by Mr. Hume, I cut through the abdominal wall very carefully, commencing the incision at the aspiration puncture-wound, and carrying it downwards and towards the median line for about two inches and a half. After the first incision, I cut on a director until the peritoneum was reached. Several vessels were divided which required torsion; and the deep epigastric artery, which was cut through, required ligature. The line of incision will be seen from the diagram (Fig. 3). Instead of coming down on the gall-bladder, as expected, I found that I had opened the peritoneal cavity. On passing my forefinger into the wound to explore the abdomen, it was evident that the mass of the tumour was to the left of the umbilicus and middle line, and that the dulness and enlargement at the point selected for incision were due to inflammatory thickening and adhesions of the omentum. Whilst exploring the cavity of the abdomen, I could distinctly feel and recognise the lobules on the under surface of the liver, also the bodies of the vertebræ. I then made an incision at right angles to the first for about an inch, cutting towards the median line a little below the umbilicus, hoping to reach the gall-bladder, but without success. Mr. Hume now explored the abdominal cavity, and expressed the opinion that to attempt to reach the tumour by carrying the incision to the left of the umbilicus, and cutting through the mass of adhesions, would be attended with great risk; and as there was, as far as we knew,

no precedent for the operation in which we were engaged, he advised that we should be content with what had been done : Dr. Weston also concurred. Moreover, the patient had been under chloroform upwards of an hour, during which two ounces of the anæsthetic were used; and, as she was in a weak condition when placed on the operating-table, we were almost afraid to prolong the anæsthetic state for any further length of time. I must confess that I was reluctant to abandon the operation, but I felt it was only judicious to do so ; and, if the patient recovered, I hoped to have the opportunity of performing a more satisfactory operation. Before closing up the wound, however, I made another exploration with my fingers, and tore through the adhesions towards the left as far as my fingers could reach. This procedure was, I believe, the means of saving our patient, and, as the sequel will show, rendered any further operation unnecessary. The edges of the wound were brought together with three silk sutures, and covered with a

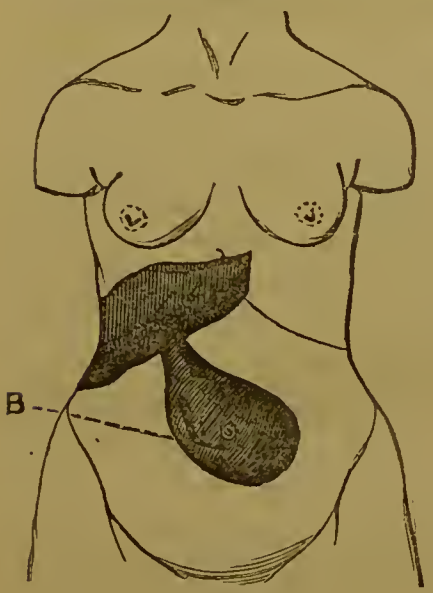

Fig. 3.

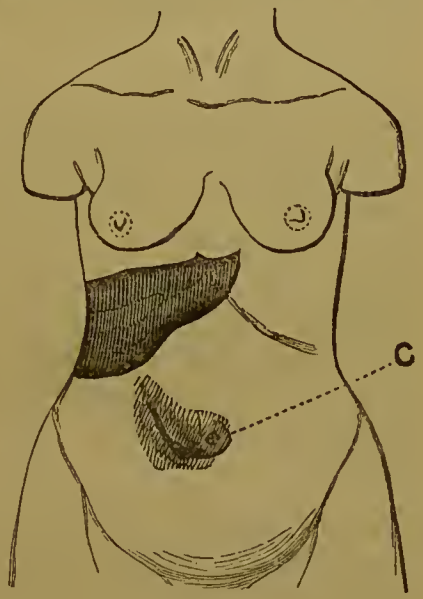

Fig. 4.

Fig. 3.—Mrs. C. Dropsy of Gall-Bladder. January 20th and 22nd, 1878. B. represents the Lines of Incisions.

Fig. 4.—Mrs. C. Dropsy of Gall-Bladder, seventeen days after operation. February 8th, 1878. C. represents the Area of Diminished Resonance from Thickening of Abdominal Wall and Adhesions of Omentum.

piece of lint dipped in carbolised oil. When she regained consciousness, she complained of great pain in the right side. Four hours after the operation, her temperature was 99.8 and pulse 88. There had been some bleeding from the wound, which, she believed, was due to

the straining caused by a troublesome cough. I ordered a draught containing two grains of morphia, which, however, only gave her one hour's sleep. In the night, she was seized with violent retching and vomiting of bilious fluid. After the retching commenced, she found that her night-dress was saturated with a yellowish fluid, which proceeded from the wound. When I saw her in the morning, the lint and bandages with which I had dressed the wound, as also her night-dress and the bed-linen around the spot where she lay, were saturated with the discharge from her side. Its colour left no doubt as to its origin. The quantity discharged could not have been less than a pint; but it is impossible to state the exact quantity. On removing the dressings, I found a steady flow of yellowish fluid making its exit from the angle of the wound. I collected about two drachms by means of a teaspoon in less than ten minutes. The liquid gave the ordinary reaction of bile. The bilious liquid continued to discharge throughout the 23rd, 24th, and 25th; but, on the 26th, the discharge became pus-like and fœtid.

To go through the daily notes of the case up to the date of her convalescence would take much more time than is allowed for each paper. It must suffice here to state that she made an excellent recovery from the operation, almost without a bad symptom. The temperature never rose but just a fraction of a degree above normal, and the pulse kept at about 80 or 90. At no time was there the slightest symptom of peritonitis. Constipation continued, and was overcome by podophyllin, saline aperients, and enemata. For some time there was a good deal of gastric irritation, with occasional attacks of vomiting of bilious liquid, which were always relieved by effervescing draughts with morphia. Coincidently with the discharge of bilious liquid, the tumour decreased in size, until almost all trace of it had disappeared. When I examined her on February 8th, the abdomen was normally resonant everywhere, except over a limited area just around the site of the incision. (This is shown in Fig. 4.) The wound had healed by this time, except at the angle, and this would have healed probably, but that I thought it advisable to keep it open for a time by means of tents. She sat up on February 2nd, eleven days after the operation, after which she gained strength rapidly, and lost the cachectic appearance which previously existed. On February 21st, just a month after the operation, she walked out, and continued to do so daily until March 1st. On March 2nd, she had another attack of bilious vomit-

ing, with pain in the right hypochondrium, which was increased on pressure. Temperature rose to 101.6 and pulse to 108. A few days after, there were signs of the tumour re-forming. On the 8th, a small abscess burst at the inner termination of the cicatrix, discharging about a tablespoonful of pus. The discharge continued small in quantity and pus-like for some days, when it became clear and glairy. Thinking the discharge proceeded from a cyst in, or adherent to, the abdominal wall, I passed a seton through the fistulous opening and brought it out one inch to the left. The seton was drawn tighter daily, and cut through the tissues included in ten days. The fistula continued to discharge a small quantity of clear fluid, in appearance closely resembling glycerine, until the middle of May ; but, by the end of that month, the fistula had quite healed. Since May, her general health has been excellent. She discharges her household duties as usual, and says that she never felt better than she does at present.

So much for the chief facts of this almost, if not quite, unique case. And now a few words as to its nature. Judging from the results of *post mortem* examinations of patients who have died after illnesses accompanied with similar symptoms and physical signs, I think there can be little doubt that the primary lesion was the impaction of a gall-stone in the cystic duct, probably an angular one, which permitted the passage of a small quantity of bile into the gall-bladder. When this occurs, we know that the gall-bladder becomes distended with bile and mucous secretion, in some cases giving rise to tumours of enormous size. After a time, inflammation was set up, either in the tumour or in the tissues around its neck, terminating in a pericystic abscess, and which abscess I aspirated on January 9th. The tumour, however, was unaffected by this operation, and, had not something further been done, the probability is that it would have continued to enlarge (as has occurred in some cases), ultimately rupturing the walls of the gall-bladder. If the contents had been discharged into the peritoneal cavity, the result must have been fatal.

This case, taken together with Dr. M. Sims's (*vide* BRITISH MEDICAL JOURNAL, June 8th), proves that, instead of such operations being unjustifiable, they can be performed with great hope of success. The time will probably come when, in such cases, the surgeon or physician will be held not to have done all that he should have done if he do not give his patient the chance of cure or relief which attach to operative measures ; and, as Dr. Sims truly remarks, an operation should

not be delayed until the patient is *in extremis*. If the patient is to have a fair chance of recovery, we must operate early and before the vital powers have been so reduced as to be unable to withstand the shock. In this case, the patient, although very ill when we operated, was very far from being in a dying state.

Dr. Sims says his case was a triumph for Listerism, because he adopted it and no peritonitis ensued. This case should, I presume, be recorded as a triumph for non-Listerism, as this system had no part in it, and we happily had a similar immunity from peritonitis. He further says that, without antisepticism, multiple manual investigation of the abdominal cavity would have been "unjustifiable and hazardous". I am sorry that such a high authority as Dr. Sims should speak thus of a mode of practice which, as yet, is on its trial, and which many other eminent surgeons believe to be unnecessary. Let us suppose that in this case the patient had died, I should doubtless have been told that I had contributed to the fatal result through disregard of so-called antiseptic precautions.

In conclusion, I would say, that it appears to me the time has arrived when we should not be content merely to prescribe medicines in obstructions of the bile-ducts and distension of the gall-bladder. To relieve pain is at all times satisfactory, and our efforts in this direction are generally appreciated by the patient. But this should not be the highest aim of medicine. As far as possible, we should endeavour to remove the cause of the pain and to produce a permanent cure, even if, on attempting to achieve such results, we run some risk of hastening the fatal termination.

At the present time (November 1878), the patient continues in good health. The cicatrix remains, otherwise the condition of the abdomen is normal, as far as can be determined by palpation and percussion.

POSTSCRIPT.

Since the above was written, Dr. W. W. Keen, Surgeon to St. Mary's Hospital, Philadelphia, U.S., has published in the *American Journal of the Medical Sciences*, notes of a case of Dropsy of the Gall-Bladder in which he performed cholecystotomy, but, as in Dr. Sims' case, with an unfavourable termination. This makes the third

case in which the operation has been performed, although Dr. Keen at the time he wrote his paper was under the impression that his was the second case of the kind. As Dr. Keen's paper may not be accessible to English readers generally, I append the chief features of his case.

The patient, a woman, æt. 60, and mother of six children, was admitted to St. Mary's Hospital, Philadelphia, on October 16th, 1878, suffering from pain in the right hypochondriac region, vomiting, loss of appetite, constipation, and jaundice. The liver was found to be somewhat enlarged, and below it could be felt a soft, globular, fluctuating mass, 4½ inches in diameter. Two days after admission an exploratory puncture was made with a hypodermic syringe, and a small quantity of dark fluid containing bile drawn off. Eight days after, the tumour was again punctured and ten drachms of similar fluid drawn off. On November 4th, the tumour having meantime enlarged considerably, Dr. Keen made an incision, three inches long, through the abdominal wall, over the most prominent part of the tumour, and having exposed the gall-bladder, plunged into it a large aspirator needle, and evacuated eight ounces of dark brown fluid. As no more fluid would flow and the gall-bladder felt almost as tense as ever, the wall of the cyst was incised, and the contents, which were found to be clots of a deep black colour, amounting altogether to about twelve ounces, evacuated. No gall-stones were discovered. The wall of the gall-bladder was then secured to the abdominal wall, with a view to establishing a biliary fistula. The operation, which was performed under antiseptic precautions, lasted one hour and ten minutes. There was considerable hæmorrhage both during and after the operation, and the patient suffered severely from shock. She never rallied properly, and suffered severe pain, necessitating repeated hypodermic injections of morphia. Vomiting was very persistent up to her death, which took place thirty-six hours after the operation. In his remarks on this case Dr. Keen says: "The cause of death was threefold:—1st, shock; 2nd, secondary hæmorrhage; and 3rd, her generally deteriorated condition, due to persistent vomiting and the far advanced disintegration of the liver. Her age, too, was much against her. He believes that had she come under treatment at an earlier period, when the obstruction was recent and the cystic tumour just beginning, the operation of cholecystotomy might possibly have saved her life; and this, too, independently of the cause of obstruction, whether inflammation or an

impacted gall-stone. "For if a gall-stone, it might possibly", he reasons, "have been removed, or if inflammation, the relief of the tension might have allowed it to subside and the duct to become pervious; and even if these results had not been obtained, the dangers of an operation and a permanent biliary fistula are at least not greater than those of continued obstruction."

The above case is of great interest and extreme value, as it throws considerable light on the class of cases that are likely to be benefited by the performance of cholecystotomy. In this case (and I believe the same may be said of Dr. Sims' case) the dropsy of the gall-bladder was the result of long-continued obstruction of the ductus communis choledochus. When this is the case, opening the gall-bladder and evacuating its contents cannot be expected to do more than afford temporary relief. The case is very different when the cystic duct is the seat of obstruction, as in all probability was the condition in my case. In these circumstances, provided the operation is not delayed until the patient is nearly dead from exhaustion, the gall-bladder may, in my opinion, be opened with great hope of effecting a permanent cure.